

REMARKS

In the Office Action dated 21 August 2003, claims 13-29, all claims pending in the above captioned U.S. Patent Application were rejected. Applicants have carefully considered the Office Action and submit the amendments preceding and these remarks as a full and complete response.

Applicants have amended the claims as suggested by the Examiner and have amended the claims additionally to recite that polyamides (PA) of the invention are modified from the commercial polyamides to have abnormal ratios of terminal amino groups and terminal carboxyl groups. The basic polyamide backbone structure and numbering system are used to identify the closest analogues. The Examiner's attention is directed to page seven of the specification for support and further explanation.

At page three of the Office Action, a rejection has been made of claims 19 and 29 under 35 USC 112, second paragraph. It has been asserted that those claims contain an improper Markush group. Applicants respectfully disagree. The recited additives are standard components added to structural polymers to modify the properties of the final product. The attached copy of Modern Plastics Encyclopaedia indicates that the recited elements were regularly grouped together more than 30 years ago. This is because they share the common utility of modifiers and they are grouped together because they have similar effects in most thermoplastic materials and are routinely adjusted as needed, much as spices in a kitchen are used. The rejection fails.

Claims 13-18 and 20-28 have been rejected over the combination of Yamamoto et al., (USP# 4,593,974) in view of Yang et al, (USP#6,064,790). Yamamoto et al. teaches a plastic optical fibre having a core (6) formed on polymethyl methacrylate and/or polystyrene and derivatives thereof, a cladding (7) which includes fluoroalkyl acrylates and methacrylates and outer protective layer (8) which is the same as the core.

Yang et al. (Fig. 1) teaches an optical fibre (12) formed of an "optical fibre" of unspecified composition, a primary layer (14) formed from a UV-curable acrylate, a secondary layer (16) formed from a different (tougher) acrylate and an outer coating layer (18) formed from a commercial polyamide.

The problem solved by Applicants invention is described beginning at page 1 line 26. While connectors for optical fibre buried underground or run in buildings are not subjected to large temperature variations or vibrations, when optical fibres are used in automobiles, busses and aircraft "pistoning" becomes a problem because the layers of the fibre and the connectors are expanding and contracting at different rates. U.S. Patents numbers 6,007,258 and 6,074,100 illustrate recent attempts to resolve this problem.

Applicants have found that modified polyamides have greatly improved adherence to the fluoride-containing cladding layers. This improved adhesion results from changing the ratio of terminal amine and terminal carboxyl groups on the polyamide. Most particularly, the improvement results from an amino terminal group excess which is obtained by the process described at page seven, first paragraph. The improvement is described at paragraphs 29-31 of the application. The sheath of L16A is compared to Grilamid L16LM (a product of the assignee of this invention) and superior adhesion is shown by the increased force needed to strip the wave guide.

Yang et al. uses the same Grilamid L16LM as used in applicants' comparisons (c.f. Yang et al. at col. 4, lines 12-16 and 29-31). Clearly, Yang et al. do not recognize that the properties of the PA can be improved by modification of its terminal amino groups, especially when used in high stress applications.

The Dalla Torre et al. reference is not discussed because it relates only to additives used in flame retardant textiles and is not relevant to the allowability of the broad claims.

A copy of EP 1 171 786 B1 is enclosed. This is the European equivalent of this application.

In view of the amendments and remarks above, applicants submit that this application is in allowance and request reconsideration and expeditious passage to issue.

Respectfully submitted,

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Enclosure: Copy of Modern Plastics Encyclopedia Vol. 48, No. 10A, 1971
EP 1 171 786 B1

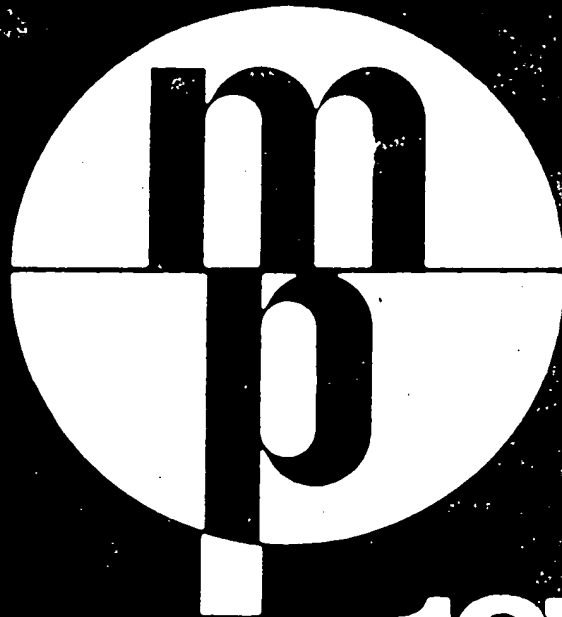
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by Jacqueline Beavers





1971
1972

Modern Plastics

Trends in the industry 4

Resins and molding compounds 10

ABS 10
Acetal copolymer 11
Acetal homopolymer 12
Acrylic 14
Alkyd 16
Allyl 21
Amino 22
Cellulosic 25
Chlorinated polyether 28
Epoxy 31
Fluoroplastics 32
CTFE 32
Polyvinylidene fluoride 33
TFE and FEP 33
Furan 38
Ionomer 38
Nylon 41
Parylene 46
Phenolic 46
Phenylene oxide 51
Polyallomer copolymer 52
Polyaryl ether 54
Polyaryl sulfone 59
Polybutadiene 60
Polycarbonate 62
Polyester 67
Linear aromatic polyester 70
Polyethylene 72
Polyimide 80
Polymethylpentene 84
Polyphenylene sulfide 89
Polypropylene 93
Polystyrene 96
Polysulfone 105
Polyurethane 106
Polyvinyl 112
Silicone 131
Styrene-butadiene 132

Foamed plastics 138

ABS 138
Cellulose acetate 138
Ethylene copolymer 139
Ionomer 140
Phenolic 139
Polyethylene 141
Crosslinked PE foam 141
Low-density PE foam 141
Polystyrene 142
Structural foams 143
Allied injection method 143
Celka method 147
Duromer process 149
Injection molded foam 146
Isoderm process 151
Rubicast method 150
Union Carbide method 148

Syntactic foam 151
Urethane 152
Integral skin urethane foam 154
Vinyl 155
Foaming agents 158

Reinforced plastics and composites 164

High-strength composites 164
Reinforced thermoplastics 166
Reinforced thermosets 172
Reinforced urethane foam 175

Film, sheeting, shapes, laminates 176

ABS sheet 176
Acrylic film 176
Cellulosic film and sheet 177
Coextruded composite films 178
Fluoroplastics film and sheet 179
Laminates 179
Cold formable 179
Decorative 183
High-pressure industrial 184
Low pressure 190
Nylon film 192
Polycarbonate film and sheet 194
Polyester film and sheet 196
Polyethylene film and sheet 198
Polyimide film 200
Polypropylene film 200
Polystyrene 201
Oriented PS film and sheet 201
PS foam sheet 201
Polyurethane film and sheet 202
Polyvinyl fluoride film 208
PVC film and sheet 203

Chemicals, additives, fillers, reinforcements 210

Antioxidants 210
Antistatic agents 214
Colorants 218
Fibrous reinforcements 222
Asbestos 224
Boron filaments 228
Carbon and graphite fibers 230
Ceramic fibers 232
Fibrous glass 232
Polyvinyl alcohol fibers 237
Sapphire filaments 238
Whiskers 238
Fillers 240
Altered novaculite 247
Barium sulfate 251
Fumed colloidal silica 251
Calcium carbonate 251
Calcium silicate 255
Glass spheres 255
Kaolin clay 255
Nepheline syenite 251

Flame retardants 256
Flow control of plastisols 258
Heat stabilizers 262
Lubricants 264
Organic peroxides 266
Plasticizers 270
Preservatives 274
Processing aids 276
Silane adhesion promoters 280
UV absorbers and light stabilizers 284

Primary processing 292

Blow molding 292
Extrusion 292
Injection 305
Preform 309
Calendering 312
Casting of thermoplastics 324
Acrylic 324
Nylon 324
PVC 328
Casting of thermosets 318
Centrifugal molding of RP 328
Coating 332
Extrusion 332
Powder 338
Transfer 344
Compression molding 348
Extrusion 350
Fluidized bed molding 379
Foam processing 381
Expandable PS 381
Extruded PS 391
Foam melt methods 391
Urethane foam molding 398
Injection molding 402
Mechanical forming 414
Billet forging 414
Blanking 418
Cold forming 418
Radiation processing 422
Rotational molding 424
RP molding 426
Filament winding 426
High pressure 428
Low pressure 430
Pultrusion 436
Testing equipment 439
Thermoforming 445
Tooling 454
Dies 454
Molds 463
Transfer molding 468
Web impregnation 476

Fabricating and finishing 486

Assembly of fabricated parts 486
Adhesive bonding 486
Heat sealing 488
Induction bonding 490